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ABSTRACT

The document describes a behavior modification program for adolescents in a residential treatment center and presents results of research which illustrate positive results. The self-instructional program focuses on teaching the adolescent self-verbalizations which are conducive to supportive behavior. Five phases are required. First, the adolescent must conceptualize the problem and understand that changes in problematic behavior would result in concrete benefits. In the second phase, the therapist introduces the concept of private speech and in phase three the adolescent analyzes private speech that occurs during problematic behavior. Phase four consists of analyzing the self-defeating nature of the usual verbalizations and developing alternative verbalizations. The final phase calls for the application of self-verbalization skills in day-to-day situations. The study of this approach to behavior modification involved 15 adolescents admitted to a residential treatment center because of severe behavior problems. Dependent measures were physical absence from class, failures to complete social/self-care responsibilities, and frequency of impulsive behavior. Results indicate that the addition of this self-instructional component to the behavior modification program created change in adolescents when compared to control groups. (Author/KC)

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Covert self-instruction among delinquent adolescents: Getting them to stop and think before they act

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Covert self-instruction among delinquent adolescents: Getting them to stop and think before they act

Cognitive self-instructional procedures have been demonstrated to be potentially effective in eliminating a variety of clinically problematic behaviors. Research summarized in the present paper sought to test the efficacy of these procedures in a population of institutionalized, delinquent adolescents. Results and procedures used in this research are described; suggestions for use in other settings are also proposed.

Historically, theoretical analyses of operant behavior have emphasized environmental consequences contingent on behavior as explanatory for the learning and maintenance of that behavior (e.g., Skinner, 1963). Applications of operant behavior theory have proliferated widely. These behavior modification procedures have been used in a variety of settings with a wide range of client types, and with considerable success.

However, evidence is rapidly accumulating which demonstrates that internal, cognitive processes are also major causative elements of behavioral phenomena (Bandura, 1977; Mahoney, 1974). Mahoney (1974) observes that although individuals do learn and maintain behavior as a result of environmental consequences, the environment they exist in is perceived rather than real; it is a phenomenological environment which does not exist independently of the individual's personal interpretation. These covert cognitive/symbolic processes serve to determine how the environment is perceived and ultimately, the nature of appropriate responses to it.

Recent research has shown that individuals may modify the cognitions and perceptions they hold about themselves and their environment. The therapeutic outcome of such "cognitive self-instruction" has often been desired change in behaviors functionally linked to the modified cognitions (Meichenbaum, 1977; Thoreson & Mahoney, 1974). To date, a wide range of behaviors have been modified using cognitive self-instructional procedures and have included: anger (Novaco, 1975), cognitive impulisivity (Finch, Wilkinson, Nelson, & Montgomery, 1975), and coping with stress (Meichenbaum & Turk, 1976). Other evidence has indicated that cognitive techniques may be used to augment

standard behavior therapy procedures resulting in greater treatment effects, increased generalization, and greater persistence of treatment effects than obtained by using standard procedures alone (Blackwood, 1970; Meichenbaum & Cameron, 1974).

Cognitive modification procedures also hold significant promise in treating behavior disorders of children and adolescents. For example, Snyder and White (1979) have reported findings which indicate that cognitive self-instruction may be efficacious in reducing dysfunctional behaviors in delinquent adolescents participating in a residential token economy. Prior research has suggested that impulsive children are, in general, likely to benefit from a cognitive treatment program (Meichenbaum, 1971; Meichenbaum & Goodman, 1969, 1971).

Even though teaching children to control and/or develop behavior regulating cognitions appears to be a promising strategy for psychologists, teachers, and others concerned with ensuring that children successfully cope with their environment, little research or information has specifically addressed how this may be best accomplished. Snyder and White's (1979) study is one of the few[1] which has sought to directly examine the effectiveness of a cognitive modification program in a naturalistic setting and which has proposed a treatment strategy applicable to adolescent populations. In order to facilitate further research and to aid those practitioners interested in developing cognitive treatment programs for the adolescents with whom they work, the present paper will briefly review Snyder and White's (1979) research and elaborate on their treatment procedures.

Review of Research

Snyder and White (1979) proposed that among institutionalized, delinquent adolescents training in cognitive self-instruction would result in improved performance as compared to a placebo group (contingency awareness) and an

assessment control group, and that this improvement would persist at followup.

Method

Subjects. Nine male and 6 female adolescents (14-17 years old) who were admitted to a residential treatment center due to severe behavior problems served as subjects. The subjects were of Black, Puerto Rican and White ethnic descent and had been in placement an average of 7.7 months (range 4-17 months) prior to the study's initiation. No subject was assessed as having below average intelligence; none manifested learning disabilities.

The primary treatment modality at the center was an operant behavior modification program similar to that used in Achievement Place (Phillips, 1968). Despite involvement in this program all 15 subjects continued to manifest behaviors such as drug use, absconsion from the program, aggression, and absence from school (which was located on grounds). The failure of these subjects to respond to the program served as the major criterion for their inclusion in the study.

Subjects were randomly assigned to one of three treatment groups (5 per group): cognitive self-instruction, contingency awareness, or assessment control. Groups did not vary in sexual composition, age, race, referral problems, type or length of placement, as determined by a χ^2 analysis. Subjects continued with their usual involvement in the operant program throughout the study.

Procedure. Three dependent measures were observed for all three groups during a two week period prior to treatment, during a two week period immediately after the completion of treatment, and during the 7th and 8th weeks after the completion of treatment. These measures were: physical absence from class, failures to complete social/self care responsibilities (failing to get out of bed on time, clean room, return to the dormitory, and attend nightly dormitory meeting), and frequency of impulsive behavior (drug

taking, physical aggression toward residents or staff, stealing, or destruction of property). Each target behavior was carefully defined, routinely observed, and carefully recorded as a part of the ongoing treatment programs for all residents in the center. Staff members were not aware of the treatment status of the subjects; all of the staff participated in observing each subject.

Treatments

The cognitive self-instruction and the contingency awareness groups met for six 45 minute sessions in a four week period. Both groups were led by the authors.

Cognitive self-instruction. This treatment strategy focused on introducing the concept of private speech (i.e., internal cognitive processes), illustrating its effect on behavior, defining situations in which improved private speech patterns could enhance the production of behavior which would obtain desired reinforcers, and developing alternative self-statements conducive to desired behavior. Also, coping statements for failure were taught. Procedures used to accomplish these goals are described in detail later in this paper.

Contingency awareness. Similar to the cognitive self-instruction group, the first phase of this group focused on defining the difficulties subjects were experiencing in the behavior modification program. After eliciting specific examples from each member, the group was told that the purpose of the meetings was to provide assistance in improving their performance in the program. The next two phases of treatment also proceded as had the cognitive self-instruction group, with the exception that self-verbalization was never mentioned. Subjects discussed the contingencies and behaviors necessary for reinforcement in the program; the group focused on discussion and exploration only, and did not utilize such behavioral techniques as modeling, role playing, or counterconditioning. Group members likewise reinforced success within the

program. Alternatives to failures were limited to discussion of task demands and contingencies.

Actual attendance in both self-instructional and contingency awareness groups was good even though subjects were difficult to motivate. Two members of the self-instruction group missed one meeting and two members of the contingency awareness group failed to attend meetings (one once and one twice). These meetings were made up by meeting with one of the therapists individually. All subjects received sodas for attending group meetings.

Assessment control. The assessment control group received no rewards and had no group contact with the therapists. They were unaware their behavior was being monitored for purposes of the study.

Results

Table 1 and Figures 1-3 summarize the subjects' performance on the target measures before and after treatment, and at a six-week follow-up. Using one way analyses of variance, no pretest differences were found between the groups on the three dependent measures. The data were analyzed using a 3 x 3 analysis of variance with repeated measures. Post hoc comparisons were made using the Newman-Keuls test.

The analysis of data on class absences revealed a significant trials effect ($F = 10.74$, df = 2, 24, $p < .01$) and a marginally significant treatment by trials interaction ($F = 2.75$, df = 4, 24, $p < .10$). All subjects demonstrated improved class attendance after treatment and at follow-up compared to pretreatment. The significant trials effect may represent positive behavior change due to the operant program alone. The trials by treatment effect suggests that this was supplemented, to a small degree, by cognitive self-instruction. The cognitive self-instruction group had fewer class absences after treatment than either the contingency awareness or no treatment control groups, and this effect persisted at follow-up.

The data on the frequency of impulsive behaviors provides more convincing

evidence for the efficacy of cognitive self-instructional training. The analysis of variance on this measure yielded a significant trials by treatment interaction ($F = 3.12$, $df = 4, 24$, $p < .05$) and marginally significant effects for both treatment ($F = 2.93$, $df = 2, 12$, $p < .10$) and trials ($F = 3.06$, $df = 2, 24$, $p < .10$) factors. Compared to the contingency awareness and assessment control groups, the self-instructional group demonstrated fewer impulsive behaviors after treatment and at follow-up. The marginally significant trials effect again suggests the beneficial effects of the operant program for all three groups, but the significant interaction indicates that treatment focusing on cognition enhances these effects.

Finally, further evidence for the efficacy of the self-instructional procedure was provided by the data on subjects' failure to complete social/self-care responsibilities. The analysis indicated a significant treatment by trials interaction ($F = 6.32$, $df = 4, 24$, $p < .01$). Compared to the assessment control and contingency awareness groups, the cognitive self-instructional group demonstrated fewer failures in social/self-care responsibilities after treatment and at follow-up. The significant interaction again supports the hypothesis that cognitive self-instruction is an effective treatment procedure with a behaviorally disturbed or delinquent population.

Discussion

When applied to a group of adolescents whose behavior was resistant to change, the addition of a self-instructional component to an operant program resulted in greater change and persistence than those exposed to the placebo condition plus an operant program, or an operant program alone. This suggests that treatment emphasizing both external contingencies for desired behaviors and internal control by the use of private speech appears to be a potent behavior change strategy for behaviorally distrurbed adolescents.

Prior to treatment, subjects failed to use private speech to guide their behavior, or used self-verbalizations that promoted impulsive anti-social behavior and was antagonistic to the learning and performance of more adaptive behavior. Developing or modifying their private speech resulted in improved performance in these areas. Importantly, the improvements generalized and persisted at follow-up.

Self-Instructional Treatment Package[2]

The self-instructional treatment package utilized by Snyder and White (1979) focuses on helping the adolescent understand the importance and effect of internal speech, and to teach him to analyze his maladaptive behavior in terms of the inner speech that precedes or is concurrent with the behavior. The approach, as previously noted, is based on the theoretical assumption that overt behavior is controlled by covert stimuli or internal speech as well as by overt stimuli. Impulsive children often appear to be deficient in necessary and/or appropriate cognitive processes with which they may control behavior. It would appear that they may possess at least two types of covert verbal deficiencies. There may be either a lack of internal speech (the chain of stimuli and responses is so automatic that little or no internal speech is used to cue or control behavior). Alternatively, the internal speech which is used may interfere with or be counterproductive to the acquisition and performance of more adaptive behavior. The self-instructional treatment program is designed to teach the adolescent self-verbalizations which are conducive and supportive of adaptive behavior.

Up to the present time, the treatment package has been used only in conjunction with other operant procedures, including a combination of token economy, response cost, and time out. Empirical validation of its effective-

ness with other populations is lacking. However, even with these caveats in mind, research suggests it to be a flexible and potentially useful approach to treating a variety of adolescent populations and behavior disorders.

Phase 1: Developing a Conceptualization of the Problem. The goal of the initial phase of treatment is to develop cooperative rapport with the adolescent and to form a shared conceptualization of the adolescent's problematic behaviors. The therapist asks the client about his view of the problems with the focus being on identifying behavioral excesses and deficits, the situations in which they occur, and resulting consequences. Quite often, this can be facilitated by having the client imagine himself in the scene in order to improve recall of the details. In the event the adolescent is unwilling to do so further time must be spent establishing rapport and trust. In most cases, however, an adolescent will agree what some of his behavior could be considered problematic when he is confronted in a non-perjorative manner with some concrete examples of his behavior. This may take the form of, "I guess you could say that cutting class has caused problems for you." Once agreement is established the next step in the program may be taken.

It is now important to propose that changes in previously identified, problematic behaviors could result in some benefits for the client. The adolescent must eventually accept this proposition otherwise the prob bility of a desirable outcome is considerably reduced. Note that benefits refer to reinforcers which the client values (e.g., more free time), not abstract, moralistic consequences (e.g., he'll have a better character). Depending upon the length and quality of the established relationship between the client and the therapist, more or less time may be spent at this stage of treatment.

Finally, the therapist attempts to inculcate a positive expectancy within the client. He suggests that he would like to involve the client in a program that may help the client change some behaviors which will directly benefit him. In turn, he requires a committment from the client to attend subsequent sessions and to try out some of the ideas that will be presented.

Phase 2: Introducting the Concept of Private Speech. Most adolescents have no concept of how private speech may influence their behavior. In fact, most of them react to the idea of "talking to yourself" as foreign or crazy. In order to develop an understanding of how self-verbalizations effect behavior, it is advantageous to use some common concrete examples. The therapist may say, "Sometimes, when people are first learning how to do something, deciding what to do with their time, or deciding how to react in a certain situation, their actions are closely tied to what they are thinking." He would then use several examples familiar to the client. Some examples that we have found useful are learning to drive a car, learning a new dance, learning some athletic skill, and rehearsing what to say to a girl/boy in order to impress her/him. The therapist describes the situation, the accompanying behavior, and how thoughts direct the behavior; he explains that as a person becomes proficient at the skill, these thoughts often cease. Examples and explanation are continued until there is evidence that the client has grasped the concept.

Similar, non-threatening examples are then elicited from the client. Some clients can do this spontaneously, but others may require other prompts, such as role playing, in order to produce examples from their personal experiences. These elicited examples should be strongly reinforced. In each case,

the effect of verbalizations or thoughts on behavior is emphasized. This can be accomplished by using a format that focuses on a situation → self-verbalization → behavior → consequence, sequence. The client is then given a homework assignment of noting times when these thoughts are evident and observing their effect on behavior in extra-therapy, real life situations.

These personalized examples help the client further appreciate the reality of self-verbalizations and their effect on behavior. This provides a basis for the subsequent treatment phases. It will make the treatment program more plausible and meaningful. 1The examples which are elicited are not necessarily related to the problematic behaviors. Lighthearted examples are more likely to produce client involvement. This phase should not become indoctrination, but rather should provide the client with an alternate, experiential orientation to understanding his behavior.

Phase 3: Analyzing Private Speech that Occurs During Problematic Behavior. The third phase of treatment involves analyzing the effect of self-verbalization on the client's problematic behavior. This requires the therapist to elicit a recent problematic behavior from the client. The self-verbalization used in this example is identified and its effect on the specific behavior that occurred is explored. Again, the situation → self-verbalization → behavior → consequence, format is used. For example, the situation was: the client was standing in the hall between classes. A friend of his suggested that they cut class and have a cigarette and soda. The behavior was: cutting class. The consequence was: a nasty confrontation with the principal and suspension from the football team. The therapist might ask what self-verbalization the client used. If there is no response, he might suggest a likely verbalization such as, "You might have said some-

thing like, 'That class is really a drag, I'm failing anyway, why not go?'." In addition, the therapist would point out that the client really talked himself into cutting class, as well as being asked by a friend.

Initially, the therapist may have to be very active in suggesting what the client might have said to himself. The problematic behaviors may be part of an automatic sequence in which there is little cognitive mediation. Role playing the situation, with the therapist taking on the role of a significant other, or using role reversal facilitates this identification and analysis. Most adolescents enjoy this procedure because of its active nature. Any progress toward the client offering suggestions of what his self-verbalizations were is strongly reinforced. A few adolescents, even after successfully completing Phase 2, claim that they actually do not think in problematic situations, they just act. In this case, it is better to have them think of what they might have thought, had they taken the time.

The focus of Phase 3 involves further development of self-observational and self-evaluative skills by the use of prompting, modeling, role playing, shaping, and reinforcement. Gradually, the therapist becomes less active as the client develops these skills until the client can perform the task independently. The self-observational and self-evaluative skills should emphasize the situational determinants of the behavior, the concept that thoughts often take place and have an effect on behavior and its resulting consequences.

Generally, it is better to focus on only one behavior or class of behaviors at a time. The next two phases of treatment should be completed next. After this initial behavior is successfully modified, return to Phase 3 and begin with another class of behaviors.

Phase 4: Analyses of the Self-Defeating Nature of the Usual Verbalizations; Development of Alternative Verbalizations. Phase 4 is, in many ways, an elaboration of Phase 3. However, in this latter phase, the self-defeating nature of verbalizations preceding targeted, problematic behaviors are explored more fully. Also, alternative self-verbalizations to be used by the client are taught.

Focusing on the target behavior in question, the therapist initiates a dialogue with the client in which the relation of thought and behavior is explored. The therapist seeks to communicate that maladaptive behaviors are often the result of inappropriate or inept thinking preceding the behavior. Thoughts prior to or concurrent with behavior control the form behavior takes. Abstract discussion of this relation is not necessary and is even undesirable; concrete examples of how the adolescent's thoughts control his behavior are far more useful. Therapists must recall that this is a dialogue with the client; coercion or haranging are counterproductive. They should seek only to encourage the adolescent to consider an alternate view of his behavior. After this last point is established with the adolescent, therapists should observe that some thoughts are more productive than others in controlling behavior. And, one way to alter behavior (and by so doing obtain desired reinforcers) is to alter one's self-verbalizations prior to acting. Finally, clients must be genuinely convinced it is in their own self-interest to alter their thinking and behavior for this phase to be effective.

Inappropriate thinking by behaviorally disturbed adolescents may take several forms. Most of this self-defeating thinking will fall into one of the following five categories:

1) concern with their social image -- "What will my friends think? What will this do to my status?"
2) concern with self-image -- "Am I inadequate, a pushover, or afraid?"
3) concern with short term consequences and ignoring long term consequences -- "Who cares about the future? I want to do this right now!"
4) life as fortuitous -- "Things just happen to me. I have no control over my life."
5) the continuing and irreparable harm done by past failures -- "I'm a failure. Why try and kid myself otherwise?"

Of course, many adolescents not defined as behaviorally disturbed may also use these same inappropriate and counterproductive patterns of thinking -- with similar deleterious consequences (e.g., #4, "I wish I was lucky like Bob and had a great job after school. But, since I'm not, why try?").

Continuing to use the same example of maladaptive behavior, the therapist then models self-verbalizations that are more conducive to adaptive behavior. These statements should emphasize the contingencies present in the situation, the task demands, self-directions to complete the task, development of relevant attitudes, and self-reinforcement for improved performance. It is helpful to try to approximate the jargon and inflection that might be used by the client. This again involves the use of the situation → thought → behavior → consequence, sequence.

Some examples are:

1) The situation is that the client is in study hall reading the assignment for a test next period. His friends are joking and passing notes to each other. The client thinks, "I don't want to look like a grind. They're having a lot of fun." He decides to stop reading

and join them (behavior). Next period he fails the test and is disqualified from playing on the basketball team (consequences).

In pointing out the self-defeating nature of the internal dialogue used, the therapist might indicate that the client only looked at part of the situation. He decided that telling jokes with his friends was more important than reading. He did not think about the test or how close he was to being taken off the team. As a result he joined his friends and suffered the consequences.

The therapist would then model an alternate statement that might be used in the same situation. For example, "I hate this stuff, but if I don't keep reading I know I'll flunk the test. If I do that I'll be off the team and look like a real idiot. I'd better keep after it. I can talk to those guys some other time." Point out here that the client is considering all the alternatives, weighing the gains and losses, and then making his decision.

2) The situation is that the client is standing in the hall between class periods and another student walks up to him and says that he cut in front of him in the lunch line (which is untrue). The student says, "You'd better not do that again or I'll bust you up the side of your head!" A lot of other people hear the conversation. The client thinks, "This guy has been on my case all week. The turkey is making me look like an idiot in front of all these people. Who does he think he is? I'll show him I can take care of myself!" The client shoves him and ends up fighting (behavior). A teacher sees the fight, and he is sent home to his parents who then take away his keys to the car (consequences).

In describing the counterproductive nature of the self-verbalizations used in this situation, the therapist might point out that the client didn't keep his cool and think through the situation. Rather, he allowed the other person to control his behavior rather than maintaining control. He saw it as a challenge to his status that he could not let pass. This led to the fight, even though he may have wanted to handle it another way.

In the same situation, he might have used thoughts like the following: "Where's this dude coming from? He's trying to play the big man and sucker me into something. Be cool. Try to handle it without being physical. Say what you think is right and if he wants to fight, you can handle it -- in the gym. Don't let him screw up the rest of the week for you." The student shoots off his mouth some, but then leaves. The client has not gotten into a fight (behavior). (It is important here to explain to the adolescent that not acting is a behavior just as well as acting is.) As a result of the above, the client feels good about how he handled the situation and that he did not lose his car keys (consequences).

After analyzing the counterproductive verbalization, and modeling a more adaptive one, the therapist asks the client to "try on" the verbalization to see how it feels. It is important that the client use his own jargon and inflection, and not just mimic the therapist. Any improvements are strongly reinforced. To maximize transfer to the real situation, it is helpful to role play the situation or have the client covertly imagine the situation, using the newly developed verbalization. Again, the therapist is initially active, but fades himself out as the client begins to develop

the necessary concepts and skills.

The goal of this phase of treatment is to develop a set of cognitive skills which are applicable to a broad range of situations and which the client can use independently. The procedures are not designed to produce a mechanical replacement of one set of statements with another, but rather the development of broadly based coping strategies applicable to situations not specifically covered in training.

Phase 5: Application of Skills in Day to Day Situations. The final phase of treatment involves the application of the newly developed skills. The therapist instructs the client to subvocally use these new thoughts or verbalizations in his day to day life. For those clients who are still resistant, point out that they only have to try them out and see if they work.

In subsequent sessions, the successes and failures of these applications are monitored. Successes are strongly reinforced and analyzed to emphasize the essential ingredients of adaptive self-verbalization. Failures are analyzed in order to further shape appropriate verbalizations and reiterate important concepts. In some cases, the clients report they forgot to use the verbalizations. In this case, verbalizations similar to those used in thought stopping might be suggested. Thus, when a problematic situation arises, the initial part of the self-verbalization might be, "Wait! Try that new thing out...." Shaping again is important. It is critical that the therapist reinforce improvements rather than wait for perfect performance.

This general procedure continues until the first target behavior or set of target behaviors is satisfactorily modified. A new set is then begun, starting with Phase 3, and moving through Phases 4 & 5.

Often when working with behaviorally disturbed adolescents, the therapist

is faced with another problem. After encountering the inevitable failure, the client wants to give up. Although the general coping nature of the adaptive self-statements that have been developed are conducive to coping with failure, it is helpful to focus specifically on the development of verbalizations to deal with failure. Statements like "I give up on this shrink business" or "What's the use? I'll never change" can be identified, analyzed, and more adaptive statements can be developed.

Application

This treatment package has been used in both individual and group settings. Although it appeats to be useful in both formats, there are some advantages in using it in the group setting. In addition to requiring less therapist time, clients in groups are able to benefit from and contribute to the exploration of maladaptive thinking in others, as well as assist them in developing more adaptive self-verbalizations. Group members can also be invaluable in role playing situations and often have more reinforcing value than the therapist.

At this time, the package has focused only on intra-institutional behaviors among behaviorally disordered adolescents. For this population (and others), it would probably be useful to apply the treatment package to extra-institutional behaviors ws well. This would maximize the persistence and generalization of the behavior change. Furthermore, the use of adaptive self-verbalization is an adaptive skill that the client can continue to use after discharge from the institutional environment.

The research literature suggests this treatment approach would also be effective in working with other adolescent populations and behavior disorders. School problems such as: test anxiety, class disruptiveness,

truancy, and others should be appropriate for its application. Also feasible are numerous areas of parent-child conflict. It should be noted and emphasized, however, that successful implementation in whatever setting is chosen is unlikely if both positive and negative consequences for behavior are not clearly specified and uniformly applied.

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Footnotes

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[1]Studies by Kendall and Finch (1978) and by Bornstein and Quevillon (1976) used younger subjects than did Snyder and White (1979). Additionally, several studies using behavioral analogues have been reported.

[2]An earlier version of this section, authored by James J. Snyder, appeared as, Covert self-instructional training for delinquent adolescents: Treatment manual, 1979. Mimeographed.